

WHAT IS CLAIMED IS:

1. A color correction circuit that is incorporated in an image display apparatus, the image display apparatus making first through third color
5 rays, which respectively correspond to first through third colors, emitted from a display device and mixed in response to first through third color signals corresponding to the first through the third colors, so as to produce a color image, the color correction circuit compensating for a variation in chromaticity coordinate of the first color ray emitted from the display device
10 at least with a variation in tone of the first color signal,
the color correction circuit comprising:
an offset output module that stores a first offset, which is to be added to the second color signal, and a second offset, which is to be added to the third color signal, at each tone of the first color signal, and outputs the
15 first offset and the second offset according to a tone value of the first color signal;
a first adjunction module that adds the first offset output from the offset output module to the second color signal; and
a second adjunction module that adds the second offset output from
20 the offset output module to the third color signal,
wherein the first offset and the second offset are set to specific values that cause a chromaticity coordinate of a resulting color ray, which is emitted from the display device and is obtained by mixing the first color ray with a second color ray component and a third color ray component
25 corresponding to the first offset and the second offset, to approach to a preset chromaticity coordinate, regardless of the tone value of the first color

signal.

2. A color correction circuit in accordance with claim 1, wherein the first adjunction module comprises:

5 a first conversion module that converts the second color signal from a signal expressed in a 2.2th-power signal space into a signal expressed in a 1st-power signal space;

 a first adder module that adds at least the first offset output from the offset output module to the converted second color signal; and

10 a first reverse conversion module that reversely converts the second color signal after the addition from a signal expressed in the 1st-power signal space into a signal expressed in the 2.2th-power signal space,

 the second adjunction module comprising:

 a second conversion module that converts the third color signal from
15 a signal expressed in the 2.2th-power signal space into a signal expressed in the 1st-power signal space;

 a second adder module that adds at least the second offset output from the offset output module to the converted third color signal; and

 a second reverse conversion module that reversely converts the third
20 color signal after the addition from a signal expressed in the 1st-power signal space into a signal expressed in the 2.2th-power signal space.

3. A color correction circuit in accordance with claim 1, wherein the first adjunction module comprises:

25 a first slope output module that outputs a slope of a tangent to a 2.2th-power curve according to a tone value of the second color signal;

a first multiplier module that multiplies at least the first offset output from the offset output module by the slope output from the first slope output module; and

5 a first adder module that adds the multiplied first offset to the second color signal,

the second adjunction module comprising:

a second slope output module that outputs a slope of a tangent to a 2.2th-power curve according to a tone value of the third color signal;

10 a second multiplier module that multiplies at least the second offset output from the offset output module by the slope output from the second slope output module; and

a second adder module that adds the multiplied second offset to the third color signal.

15 4. An image display apparatus, comprising a color correction circuit in accordance with claim 1.

5. An image display apparatus, comprising a color correction circuit in accordance with claim 2.

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6. An image display apparatus, comprising a color correction circuit in accordance with claim 3.

25 7. A color correction method adopted in an image display apparatus, the image display apparatus making first through third color rays, which respectively correspond to first through third colors, emitted from a display

device and mixed in response to first through third color signals
corresponding to the first through the third colors, so as to produce a color
image, the color correction method compensating for a variation in
chromaticity coordinate of the first color ray emitted from the display device
5 at least with a variation in tone of the first color signal,

the color correction method adding a first offset according to a tone
value of the first color signal to the second color signal and adding a second
offset according to the tone value of the first color signal to the third color
signal, so as to cause a chromaticity coordinate of a resulting color ray,
10 which is emitted from the display device and is obtained by mixing the first
color ray with a second color ray component and a third color ray component
corresponding to the first offset and the second offset, to approach to a
preset chromaticity coordinate, regardless of the tone value of the first color
signal.

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